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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHEW, JOHN

ART UNIT PAPER NUMBER

2664

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/735,861

Applicant(s)

FERIA ET AL.

Examiner

John L. Shew

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-17 and 25-26 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 4, 18 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2, 3, 4</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

Page 6 line 19 cites "For example, the beam 20", it should be beam 30.

Page 7 line 1 cites "Referring now to Figure 2B, a beam 30", it should be beam 30'.

Page 7 line 2 cites "As mentioned above, the beam 30", it should be beam 30'.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 4 recites the limitation "communications platform is located in a stratospheric location" in a communications system recited in claim 2. There is insufficient antecedent basis for this limitation in the claim. Claim 2 does not recite the use of a communications platform.

3. Claim 18 recites the limitation "monitoring a number of users of a code in each of the plurality of code bins" in a method recited in claim 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 does not recite the use of code bins.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 09/661726. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims are for a communication system assigning a first code to a first user, a first code to a second user and upon determining interference will reassign a second code to the first user.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Application No. 09/661726 claim 6 is dependent on application no. 09/661726 claim 1, with the additional limitation of first resource comprising a code.

Claim 1 teaches a method of operating a communication system, application 09/661726 claim 1 teaches a method of operating a communication system. Claim 1 further teaches the step of assigning a first code to a first beam of a mobile user, application 09/661726 claim 1 teaches the step of assigning a first resource to a first beam of a first mobile user. Application 09/661726 claim 6 further limits the first resource to a code.

Thus application 09/661726 teaches assigning a first code to a first beam of a first mobile user. Claim 1 teaches assigning a first code to a second beam of a second user, application 09/661726 claim 1 teaches assigning a first resource to a second beam of a second user and if further limited by claim 6 to be a code assignment. Claim 1 teaches continually determining whether an interference occurs between the first beam and the second beam, application 09/661726 claim 1 teaches continually determining whether an interference occurs between the first beam and the second beam by determining whether the first interference contour intersects the second interference contour. Claim 1 does not have the limitation of defining an interference contour for the first user and second user respectively. It is obvious to one of ordinary skill in the art that contours are inherent to the use of beams and their overlap constitutes interference region. Claim 1 teaches when an interference occurs between the first beam and the second beam, reassigning a second code to the first beam, application 09/661726 claim 1 teaches when the first interference contour intersects the second interference contour, declaring an interference and reassigning a second resource to the first beam which dependent

claim 6 defines the resource to be a code. Claim 1 does not have the limitation of the intersection of interference contours to determine interference. It is obvious to one of ordinary skill in the art that contours are inherent to the use of beams and their overlap constitutes interference.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diekelman in view of Ganucheau, Jr et al.

Claims 1-3 and 5, Diekelman teaches a method of operating a communication system (FIG. 4) referenced by high altitude satellite communications device 50 and communication units mobile user one 60, user two 62 and user three 64 with beams 54, 56, 58 communicating with each user, comprising the steps of assigning a channel to a first beam of a mobile user (FIG. 10) referenced by step 130, assigning a channel to a second beam of a second user (FIG. 10, column 5 lines 60-67, column 6 lines 1-2) referenced by step 130 with the reallocation of interfering channels, continually

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determining whether an interference occurs between the first beam and the second beam (FIG. 10) referenced by step 138, when an interference occurs between the first beam and the second beam reassigns a second channel to the first beam (FIG. 10) referenced by step 140. Diekelman does not teach the use of code assignment to a beam. Ganucheau Jr. teaches the use of code assignment to a beam (column 4 lines 39-65) referenced by use of CDMA for specifying channels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use CDMA for channel selection on the beam pointing communication system of Diekelman for the purpose of using spreading codes to improve noise tolerance. CDMA implicitly uses codes and lends itself to perform the channel selection as suggested by Diekelman.

Claim 6, Diekelman teaches a satellite from a group consisting of low earth orbit satellite and geostationary satellite (column 1 lines 42-48) referenced LEO satellites (column 8 lines 2-5) referenced geostationary satellites.

Claim 7, Diekelman teaches a device operations center (FIG. 3) referenced by Network Control Facility 34.

Claims 8 and 9, Diekelman teaches a high altitude communication device. Diekelman does not teach a gateway station coupled to the high altitude communication device. Ganucheau Jr. teaches a gateway coupled to the high altitude communications device (FIG. 1) referenced by gateway 30 and satellite 32 using link 42. Further Ganucheau Jr.

teaches the gateway station couples the first user device and the second user device to terrestrial networks through the high altitude communications device (FIG. 1) referenced by gateway 30, first user device 24, second user device 26, PSTN 44 and satellite 34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to couple a gateway to the beam pointing communications system of Diekelman for the purpose accessing the PSTN.

Claim 23, Diekelman teaches a method of channel management (FIG. 10) referenced by determination of service beam activation 126, comprising assigning a plurality of users (FIG. 4) referenced by users 60, 62, 64, a plurality of non-interfering channels (FIG. 10) referenced by interference determination step 138 and channel assignment step 140, moving the plurality of users (column 3 lines 62-64) referenced by steering of service beam which carries channels assigned to users, continually monitoring the plurality of users for an interference and when a first user interferes assigning a non-interfering channel (column 5 lines 60-67, column 6 lines 1-2) referenced by determination of overlapping service beams interfering and reallocation of communication channel for either of the service beams. Diekelman does not teach the use of code assignment to a beam. Ganucheau Jr. teaches the use of code assignment to a beam (column 4 lines 39-65) referenced by use of CDMA for specifying channels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use CDMA for channel selection on the beam pointing communication system of Diekelman for the purpose of using spreading codes to improve noise tolerance.



6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diekelman and Ganuchau Jr. as applied to claims 1-3 and 5 above, and further in view of Wang et al. Diekelman and Ganuchau Jr. teaches a high altitude communications system using CDMA. Diekelman does not teach a communications platform located in the stratosphere. Wang teaches a communications platform located in the stratosphere (column 2 lines 52-67) referenced by stratospheric platform 12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a stratospheric platform for the beam pointing communications system of Diekelman for the purpose of rapid deployment in modifying system capabilities.

7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diekelman and Ganuchau Jr. as applied to claims 1-3 and 5 above, and further in view of Madkour et al. Diekelman and Ganuchau Jr. teaches a high altitude communications system using CDMA. Diekelman and Ganuchau Jr. does not teach a communication system comprising of a personal digital assistant communication system. Madkour teaches a communication system comprising of a personal digital assistant or cellular phone communication system (column 7 lines 33-54) referenced by CDMA wireless communication system to various terminals including cellular radiotelephone and PDA. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a wireless personal digital assistant for

the communication units of the beam pointing communications system of Diekelman for the purpose of maximizing the various types of wireless receivers.

8. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diekelman and Ganuchau Jr. as applied to claims 1-3 and 5 above, and further in view of Chuprun et al. Diekelman and Ganuchau Jr. teaches a high altitude communications system using CDMA. Diekelman and Ganuchau Jr. does not teach a communication system comprising of a business-based nor home-based communication system. Chuprun teaches a communication system comprising of either a business-based or home-based communication system (FIG. 1, column 1 lines 17-21, column 2 lines 44-49) referenced by communication system using WAU 201 for satellite access by both business and residential customers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate business-based and home-based communication systems to the beam pointing communications system of Diekelman for high speed low cost data exchange.

***Allowable Subject Matter***

9. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 10-17 and 25-26 are allowed.


The prior art search did not disclose any communication system using a plurality of code bins to determine assignment of user code.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L Shew whose telephone number is 703-305-8708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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